

<p>2004-074197/08 A23 FO1 RHOD 2001.12.17          RHODIANYL SNC *FR 2833604-A1          2001.12.17 2001-016322(+2001FR-016322) (2003.06.20) C08L          77/06, C08G 69/06, C08J 5/18 (C08L 77/06, 77/00)  <b>Polymer composition used for injection molding contains a thermoplastic polymer matrix and a rheology modifier comprising a functionalized, hyperbranched copolyamide</b>          C2004.030577          Addn. Data: VARLET J, CLEMENT F, TOURAUD F, ROCHAT S,          SCHERBAKOFF N, SASSI J F          2002.01.17 2002FR-000545</p>	<p>A(5-FIE) F(1-D3)</p> <p>monomer of formula (III) and a chain limiting monomer(s) of formula (IV), where at least 50% of the terminal groups are functionalized by R<sup>2</sup>:</p> <p>ARBr (I)          A'R'B' (II)          R'(B'')<sub>n</sub> (III)          R<sup>2</sup>A'' (IV)</p> <p>A, A', A'', B, B' and B'' = reactive groups;          R and R' = hydrocarbon group;          f = at least 2, preferably 2-10;          R<sup>1</sup> and R<sup>2</sup> = hydrocarbon group; and          n = at least 1, preferably 1-100.</p>
<p><b>NOVELTY</b>          Polymer composition contains a rheology modifier comprising a functionalized, hyperbranched copolyamide obtained by reacting a monomer(s), optionally a spacing monomer, optionally a core monomer and a chain limiting monomer(s)</p> <p><b>DETAILED DESCRIPTION</b>          Polymer composition comprises a thermoplastic polymer matrix and a rheology modifier comprising a functionalized, hyperbranched copolyamide obtained by reacting a monomer(s) of formula (I), optionally a spacing monomer of formula (II), optionally a core</p>	<p><b>USE</b>          For producing articles by molding, injection molding or extrusion to give threads, fibers, films and filaments (all claimed).</p> <p><b>ADVANTAGE</b>          The fluidity, transparency and mechanical properties, particularly</p> <p>FR 2833604-A+</p>

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impact resistance, are good.

#### SPECIFIC COMPOUNDS

Preferred Materials: In the hyperbranched copolyamide, (I) is 5-aminosulphthalic acid, 6-aminoundecanoic acid, 3-aminopimelic acid, aspartic acid, 3,4-diaminobenzoic acid and/or 3,5-diaminobenzoic acid, (II) is  $\epsilon$ -caprolactam, aminocaproic acid, p- or m-aminobenzoic acid, amino-11-undecanoic acid, lauryl lactam or its amino acid and/or amino-12-dodecanoic acid, (III) is 1,3,5-benzene tricarboxylic acid, 2,2,6,6-tetra-(beta-carboxyethyl)cyclohexanone, 2,4,6-tri-(aminocaproic acid)-1,3,5-triazine and/or 4-aminomethyl-1,8-octanedi-amine and (IV) is n-hexadecylamine, n-octadecylamine, n-dodecylamine and/or benzylamine (claimed).

#### EXAMPLE

Polyamide 66 mixed with 5 (0) % hyperbranched copolyamide prepared from 1:6:6:9 tricarboxylic or trimesic benzoic acid, 5-aminosulphthalic acid,  $\eta$ -caprolactam and n-hexadecylamine had a pack pressure of 25.5 (35.4) bar.

#### TECHNOLOGY FOCUS

Polymers - Preferred Materials: The matrix is preferably nylon 6,

nylon 66, nylon 4, nylon 11, nylon 2, polyamide 4-6, 6-10, 6-36, 12-12 and/or their copolymers (claimed).  
Preferred Composition The composition contains 0.1-50, especially 210 wt.% hyperbranched copolyamide (claimed).  
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